

(Text-file, from Notepad, with wordwrap on)

EB Docket No. 04-296

<http://www.fcc.gov/eb/Orders/2004/FCC-04-189A1.html>

RE #20: "The main objective of this NPRM is to seek comment on whether EAS as currently constituted is the most effective and efficient public warning system that best takes advantage of appropriate technological advances and best responds to the public's need to obtain timely emergency information. We also seek comment on rules that the Commission may adopt to enhance the effectiveness of EAS. One of the central issues on which this NPRM seeks comment is the current efficacy of EAS in an age when the communications landscape has evolved from what it was when EAS predecessors and EAS itself were originally conceived."

#### I. NPRM Point-summaries

RE #52 "Comments ... must include a short and concise summary of the substantive discussion and questions raised in the NPRM."

As many comments below address multiple NPRM points at once, the corresponding point-summaries are listed here together, indexed by NPRM paragraph number, then referenced in the comments:

#4: "There are ... questions about the technical capabilities of EAS. ... How could it be made more efficient? Should it be phased out in favor of a new model? If so, what would the new model look like?"

#24: "To avoid what broadcasters and cable operators might view as a burdensome level of program interruptions..." (Note this says NOTHING about the citizen/viewer/customer!)

#31: "...EAS, as currently constituted, reaches the very limited audience listening to broadcast radio or watching broadcast or cable television at the time the emergency announcement is made"

#32: "...systems that... deliver alerts to mobile handsets of wireless subscribers or to televisions, cable boxes, clock radios, cars, computers, stand alone units or other devices..."

#35:

[a] "[T]o what extent does an effective public warning system depend on the consumer electronics equipment that receives the warning?

[-] MSRC has identified as two primary functionalities of a future warning system the ability of a device (such as a radio or television set) to

[b] automatically turn on and tune in to the channel carrying the warning, and  
[c] the capability of such a device to receive a geographically addressed message

[d] Would mandating the adoption of such technology to other consumer electronic devices enhance the effectiveness of EAS and other PAW systems? "

#40: "We should also consider the needs of people with primary languages other than English when considering the best method of contacting the public during an emergency."

#41: "We also seek comment as to the security issues relevant to EAS. ... EAS signal could be subject to jamming."

#43: "Would having too many tests become a public nuisance leading to ignoring EAS alerts by the public?"

## II. Comments

RE #24: To avoid a burdensome level of program interruptions

As a citizen, I can only address the current EAS system from a limited end-recipient perspective, and having fortunately never needed or been able to use any information delivered in such alerts, my views can only reflect some of the disruptive effects the system (or one current implementation) has on those for whom the warnings are NOT intended. As such concerns are not considered comparable to the potential losses suffered by the intended parties, they may seem trivial, even selfish, but these unapplicable warnings could also be viewed as a form of false alarm, which through repetitive irritation, slowly erodes concern for others who we are helpless to aid (much like the now-frequent car alarm), soon prompting questions like: Why should WE be penalized because SOME people have decided to live on an idyllic, scenic, FLOOD PLAIN?

For example, being part of a large EAS weather zone (run from over 50 miles away), our cable service (Comcast) interrupts programming to inform us of flash-flood warnings for places that are 25 miles away. (Our nearest hills are low, and 4 miles away across flat, dense suburb) This interruption is not simply a small message scrolling over the show, but instead, a total blackout -- both audio and video, of roughly 90 of 100 channels, the rest being local. Depending on the length of the blackout (30 seconds to 2 minutes) key scenes of the show can be ruined, which in turn can ruin the show, thus wasting 30 minutes to 2+ hours, depending on whether it was a sitcom or a long movie.

Though well-intentioned and basically a very good policy, for those many-many who do not really benefit from them, the weather warnings, Amber alerts, and monthly tests, just add to the host of service-quality problems (from a customer product-expectation perspective) such as: animated station-commercials that run DURING the show before/after commercial breaks (some with SOUND EFFECTS); large, distracting, and/or bright station-logos (bright ones can damage the screen -- ask Sony); end-titles and music ruined with voice-overs and image-compression; news channels that don't show the "RECORDED EARLIER" tag on video replays, so the viewer only knows a stressful event is no longer happening because the time of day is wrong or they just saw the same exact scenes 5 minutes ago; loud commercials (the FCC rule is EASILY bypassed); the nightly wasteland of infomercials; stations that frequently run just a little off-schedule, so the opening scenes of a show are missed or a VCR properly shuts off before the end; and more --- all issues fully within control of the stations, and (by legal contract alone) not concerns of the cable service, despite their ever-increasing prices and decreasing "product" quality; or of the FCC, apparently.

(RE #32, #35, #43)

Given all the above-listed deliberate practices "inflicted" on viewers, the non-deliberate signal drops, the general decline of quality programming, and the rise of "reality" shows, the appeal of TV is such that (for me) it already

remains off or muted much of the time (despite an \$80/month household cable bill). Were the EAS system under the current "shotgun" broadcast policy to automatically turn it on, I would consider unplugging it as well. In addition, should the current EAS practices spread to phones (wired or cell), pagers, and Internet connections, I would consider de-powering those also. Assuming I am not alone in this, you will have ruined the convenience of Phone, any remaining enjoyment of TV, and BOTH for the Internet, as otherwise we will be bombarded with even more alerts that really do not apply to us, or which we can do little about (especially when not mobile), including NON-emergency random system tests; all which may spoil a movie at a critical plot moment, or wreck an online game (most which require stable connections). Further, as pagers ONLY exist to receive messages, de-powered, they will cease to have any use at all. Then again, phones aren't too useful either if most are left off hook most of the time.

Of course, local alerts are a completely different matter, being very important to the viewer's own well being, whether they recognize it or not. The problem is that the current EAS system seems to have little concept of Local.

### III. Conclusion and proposals

(RE #4,#24,#32)

The EAS system is basically a very good idea, with one major minor-flaw: too many unnecessary alerts in unaffected areas. Thus, presented here are a number of suggestions to reduce or eliminate the problem (especially before it expands to Telephone and Internet), and in most cases enhance the power of the system as well.

#### Suggestion 1: (RE #35a,c)

EAS zones need to be subdivided into much smaller areas, Quads, 1 to 5 miles or kilometers square, then grouped into larger addressable regions by assigning them one or more type-numbers (in the receiver), as follows:

Assigning a quad just 1 type-number, Geomorphic, divides the zone into regions, accounting for many local weather-related situations: 1=shore (high surf), 2=coast (flooding), 3=plains (tornado), 4=foothills (flash-flood, brush-fire), 5=mountains (blizzard, avalanche), etc.

Assigning a second type-number, Geopolitic, divides the zone into districts, accounting for many terror-related situations: 1=down-town, 2=east-side, ... 7=harbor-district, 8=North-Bend, 9=Pine-Hill, etc.

A third type-number, Hazard-ID, would account specifically for areas surrounding local hazard sites, such as storage tanks, refineries, major labs, nuclear plants, etc: All zones near hazard#23 are tagged 23.

A forth type-number, Evac-pattern, could indicate a section in a pre-set evacuation plan: 1=docks, 2=Main-Street, 3=city-center, ... 7=Bay Bridge, etc.

And so on, with each optional type-number creating a new set of groups, giving a whole new addressing map for whatever the need. Thus each quad can be several types and so belong to as many region-groups as desired.

For example, with 3 type-numbers:

A group of quads near the San Onofre nuclear power plant in CA might be tagged: 02,03,12 (coast, west-side, site#12)

The plant itself is in the quad tagged 01,03,12 (shore, west-side, site#12)

A group of quads near an oil field east of Dallas, TX, might have tag: 03,02,14 (plains, east-side, site#14)

Suggestion 2: (RE #35a,c)

A severity-system is needed, such as: Emergency, Alert, Warning, Advisory. Also, the distance from the event-area should influence the severity of warning and service interruption, such as for every 10 miles, the severity is downgraded by 1. This would allow a single message to address a number of regions with the appropriate level of urgency. The distance can be determined in two different ways:

1) A simple pseudo-distance scheme that does not need coordinates: Numbered types naturally have an inherent order or "distance". In the Geomorphic type above, Coast is 1 step from Shore, and 3 steps from Mountains.

2) A simple (2-digit) x,y grid coordinate and radius of effect: Hazardous sites have fixed locations, and thus coordinates. A 10x10 grid of quads could cover 50 miles square, and locate all major hazards in the EAS zone. The distance of any quad from the site can then be easily determined. Further, as each site is surrounded by concentric zones of decreasing potential danger, an optional effect-radius can indicate zone-widths, which depend on the size and type of site. For example, San Onofre, site#12 at 3,7 radius 4 becomes: 01,03,12;3,7,4

3) Instead of pre-loading all hazard sites in the EAS zone, the EAS message could send the above-described grid coordinates and effect-radius of the affected site. However, this would require redefining the EAS message.

In case 1, the EAS receiver does not even need to know its own grid coordinates, but it must remain in the Quad. In cases 2 and 3 the receiver does need them, but (like coarse GPS) they are the same for all units currently in that quad, stationary or mobile.

(RE #24,#35a,#43;#40)

Using the distance-modified severity-level of the message, there is no need to always completely blank all audio and video. Thus, important messages will always LOOK important, and lesser ones less so (even to non-English speakers), greatly reducing the tendency to start ignoring them ALL as YABBB (Yet Another Bleating Blackscreen Blurb). As the idea is then to get the attention of the endangered few, without unduly annoying the unaffected many, a scrolling OVERLAY banner should suffice for all but local or widespread Emergencies. The display device can handle the interruption-format:

Basic formats, not distance-modified, (color/BW):

Emergency: the current full audio and video interrupt with familiar steady tone

Alert: red/black overlay banner with pulsed tone (like fast busy-signal)  
Warning: yellow/gray overlay banner and pulsed tone (like slow busy-signal)  
Advisory: just message (no banner) with short beep every 2 seconds.  
Test: one of above, once a week.

Examples, with distance-modifier:  
A flash-flood Alert for Foothills group:  
(target) Foothills: 0 steps: red banner, fast-beeps  
Plains, Mountains : 1 step : yellow banner, slow-beeps  
Coast, Shore : 2+ steps: no banner, short-beeps

A radiation Emergency at the San Onofre plant:  
0-4 miles (0 steps) : black screen, steady tone  
4-8 miles (1 step) : red banner, fast-busy  
8-12 miles (2 steps): yellow banner, slow-busy  
12+ miles (3+ steps): no banner, short beeps

In cases where the message is too damaged to determine type or severity, the receiver can always assume the worst, reverting to the black Emergency screen.

Suggestion 3: (RE #31,#35a,b,#41)

Redundant EAS control channels (subcarriers in the AM/FM/TV band) could transmit the EAS header every 10 seconds for the duration of the alert, while main EAS channels (say 911-AM, 91.1-FM, 19/91-TV) continually repeat the alert details. Force-tune technology monitoring the control channels could then cause any comm-device (with EAS receiver) that is just powering up, to switch to a main EAS channel for the alert details. The particular channel is determined by best signal quality (as defined by fewest EAS-header errors -- TBD, as surprisingly, message has no checksum). Active comm-devices would switch to a main channel at the start of the alert (or a change in header, indicating new alert), but could be immediately switched back if the alert was not relevant to the listener/viewer. Those still concerned could turn back to a main EAS channel at any time, to check alert status. During non-alerts, the main EAS channels would simulcast a (perhaps randomly) selected local news-station for a fee, thus helping to fund the EAS system.

This system is much less disruptive for those who don't need the alert, while letting the alert reach far more people; those who would have missed the current single-shot alert because they were not near a comm-device when it was sent, even if the device did turn on automatically. In addition, multiple transmissions, continuously broadcast on several frequencies (here 8), make the system robust in bad weather, and also hard to jam.

Suggestion 4: (RE #24,#35a,#43)

As TIVO-like features are now available on many cable services, the TIVO could be auto-activated for the duration of the alert, then auto-playback thereafter. This could be done locally in the receiver if it were in charge of interrupting the video, instead of the transmitter.

#### Suggestion Summary:

Suggestion 1 (with 2) would allow fine-tuning coverage areas according to the REAL potential problems at the receiver location, and permit superimposing many independent specialized addressing-plans over one EAS zone. Coincidentally, it seems the current EAS protocol has some similar features, but either they are not being used, or they cover too large or imprecise an area, resulting in needless interruptions. The proposed system may SEEM complicated, but it really just adds straightforward location-specific "listening" (a natural part of human communication) to the current "directional-shouting" method. Further, it is easily done with modern equipment like a cable-box, TV, or even clock-radio, adding only a small amount of code to existing firmware, and a short string of digits to receiver setup (about 2 to 10 in above examples). It could also be handled in a central cable-control box within each quad, reducing the number of receivers needing to be programmed.

Further, EAS messages remain very simple: Just one number to select the region-type (the coverage map), and one to choose the region (the quad-group) therein. In fact, using just the mostly-undefined P-field in the current EAS protocol, setting the high-bit to 1 (for P=128-255, all undefined) leaves 7 bits, which can be split into 3 for group-type and 4 for group-number, or 8 overlaid region-maps with 16 regions each (and P=10-127 is STILL reserved).

Also, the simple-grid and severity-system would help deliver real-time earthquake warnings with a realistic expected local magnitude, while the ground-wave was still approaching. In addition, local merchants in the quad could use the grid with a Local-Specials cable channel, to target the potential customers in their immediate area, with the small but numerous advertising fees from each quad helping to support the EAS system.

Suggestion 3 (with 2) provides a stronger overall system, in probability of alerts being received, and seen, and heeded; and continuously funded.

Suggestion 4 is rightful consideration by cable-systems of their customers.

Closing statements: (RE #24,#32,#43)

The best system will fail if it becomes a nuisance and ceases to be respected, as may happen if the YABBB-trend continues, and all the more so if every comm-device around one (10 and counting) starts YABBBing at once (or in rapid succession), even every other week. Feeling a loss of control causes stress, and alerts for distant situations which locally neither affect nor can be affected, just enhance that feeling of control-loss, especially when they repeatedly ruin one's current activity. A local Emergency is important; a distant Emergency is important too, but there are thousands every minute. What is the difference if a flash-flood is 15 miles away, or 1500 miles, if one is at home, watching TV or on the Internet? What point is there knowing someone has been kidnapped, when one is already in bed, as many are after 12 AM? It all just adds stress. Receiving alerts while mobile however, is entirely another matter, and much more important; but currently much less reliable it would seem.

Finally, the NPRM says nothing concerning the citizen's PRIMARY daily use of TV, Radio, Phone, and Internet, that being entertainment. Between unapplicable real alerts and mere tests, the disruption potential for TV is already high (not even

counting the rude station practices listed above). Spreading such to the other communications channels would be most unfortunate, especially when there are mitigating alternatives. Remember, you can dismiss the concerns of the public (even those you may consider selfish), but we ultimately control the power-switch, even if it means pulling the plug.

#### IV. Other comments

RE #32: "Should all APAWS be required to be compatible with the existing EAS protocol?"

Where implementing the protocol (especially as a configuration-option) is only a matter of software, and the cost of the extra code-memory is minimal if any, the potential future flexibility seems worth the effort, even if it remains disabled for now. Also, a standard EAS source-code module should be made available (in C and BASIC), to save much redundant effort.

RE #46: "[S]ome broadcasters have failed to install or properly maintain EAS equipment. The base forfeiture ... is \$8,000."

Perhaps the offending stations should be required to run a (FCC produced?) documentary about the EAS system, thus enlightening the citizens who stay tuned, and penalizing the station an hour's worth of viewership for those who don't; little financial burden on a small station, but possibly worth much more than \$8000 to a large station. Of course, the station would have to show the infamous "Views expressed during this program do not reflect those of this station" message.

#### V. Official References

Text from official documents, and added comments, supporting #24 and #43 above.

(Paragraph numbers below refer to documents named, not NPRM.)

1. From Amendment of Part 11 of the Commission's Rules, EB Docket No. 01-66 Regarding the Emergency Alert System, RM-9156, February 22, 2002  
<http://www.fcc.gov/eb/Orders/2002/FCC-02-64A1.html>

Re #45: "We agree that permitting selective logging and displaying of state and local EAS messages will greatly enhance EAS. It will relieve EAS participants from the burden of logging unwanted messages, e.g., messages that do not apply to a participant's service area or messages concerning events which the participant has decided not to [receive]. Additionally, it will enable NWS to broadcast non-alerting messages, conduct tests ... without impacting EAS participants ... [W]e conclude that it is more consistent with the voluntary nature of state and local EAS to allow broadcast stations and cable systems [and citizens] to choose which state and local EAS messages they wish to [fully] display and log. We are confident that EAS participants will exercise good judgement in making these choices."

Altered slightly with the words in []'s why should this not apply to the ultimate participant in the EAS, the citizen, who must otherwise "log" (take account of) EVERY received EAS message, in full, whether useful or not.

Re #49: "We will adopt the proposal to increase the time for retransmitting RMTs from 15 minutes to 60 minutes from the time of receipt of the RMTs. [a] We agree with the majority of commenters that a longer relay window will provide EAS participants more flexibility and reduce the risk of program disruptions. [b] Moreover, we do not believe that increasing the relay window for RMTs will compromise the ability of the EAS to deliver a real EAS message in a timely manner."

As statements a and b are both unqualified by limitations, I suggest that extending the RMT/RWT retransmit times to 3 hours (on automated systems) would double the flexibility, eliminating the need to interrupt most ANY programming. (2 hours is too short for many movies on channels with no commercial breaks, like HBO)

## 2. FCC EAS fact sheets:

<http://www.fcc.gov/eb/easfact.html>

"WHAT DOES THE NEW EMERGENCY ALERT SYSTEM MEAN FOR YOU? ... Less Intrusive. EAS tests are shorter and less obtrusive to viewers and listeners. Therefore, when people do hear or see the EAS messages, they will take them more seriously."

<http://www.fcc.gov/cgb/consumerfacts/eas.html>

"Finally in 1997, EAS replaced the weekly (on-air) "only a test" broadcast notifications used by the EBS with less obtrusive weekly internal tests and monthly on-air tests."

This is ABSOLUTELY NOT the case! Alert messages are now almost FREQUENT, as yet only for matters which do not even affect this area, and the tests are FAR MORE intrusive, blocking out 90% of programming indiscriminately DURING shows and movies, where before (if memory serves) they were only ever done during commercial breaks.

<http://www.fcc.gov/eb/eas/47part11.pdf>

"11.61 Tests of EAS procedures, Required Weekly Tests: AM, FM and TV stations [and] cable systems ... must conduct tests of the EAS header and EOM codes at least once a week at random days and times on all programmed channels"

So someone who watches only 2.5 hours of TV a day (such as a movie and a sitcom) already has a 10% chance of having the show interrupted by a mere test. Add to that one Amber alert and one weather alert every 2 weeks, and there is now a %20 chance. So, 1 of 5 shows will likely be marred; and 1 of 100 ruined, assuming a 5-minute critical spot per show. (For Internet EAS however, as Internet games often abort when the connection is interrupted, the whole game-time is critical.)

## 3. CA EAS fact sheet:

<http://eas.oes.ca.gov/Pages/whatseas.htm>



There were several problems with the EBS that grew over the years: ... Fourth, the long, obnoxious EBS tones used in the weekly tests served to drive listeners away to other stations."

The EAS system is FAR MORE obnoxious than the EBS ever was, and the only stations left to be driven to are the local channels (which we can get over the air for free, eliminating Cable. So much for modern communications!)

(end of submission)